Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application. Material inserted is indicated by underlining and material deleted is indicated by ~~strikeout~~.

Listing of Claims:

1. (Original) A mature protein having an antagonistic activity against bone morphogenetic proteins, obtained by converting at least one residue among methionine residues or tryptophane residues existing in the amino acid sequence of mature human MP52 (SEQ ID NO 1) to a hydrophilic residue by chemical modification, or replacing said residues with a hydrophilic amino acid residue or a polar amino acid residue.

2. (Original) The mature protein according to claim 1, wherein the chemical modification for said methionine residue is an oxidization reaction.

3. (Original) The mature protein according to claim 2 in which four methionine residues are oxidized and having the amino acid sequence of SEQ ID NO 5.

4. (Original) The mature protein according to claim 1, wherein the chemical modification for said methionine residue is an alkylation reaction.

5. (Original) The mature protein according to claim 4 wherein the alkylation reaction is S-carboxymethylation in which at least one methionine residue is S-carboxymethylated and having the amino acid sequence of SEQ ID NO 6.

6. (Original) The mature protein according to claim 1, wherein the chemical modification for said tryptophane residue is an allylsulphenylation reaction.

7. (Original) The mature protein according to claim 6 in which two tryptophane residues are allylsulphenylated and having the amino acid sequence of SEQ ID NO 7.

8. (Previously Presented) The mature protein according to claim 1, wherein said mature human MP52 is a dimer protein.

9. (Original) A mature protein having an antagonistic activity against bone morphogenetic proteins, obtained by converting at least one residue of tryptophane residues existing in the amino acid sequences of mature human BMP-2 (SEQ ID NO 2), mature human BMP-4 (SEQ ID NO 3) or mature human BMP-7 (SEQ ID NO 4) to a hydrophilic residue by chemical modification, or replacing said residues with a hydrophilic amino acid residue or a polar amino acid residue.

10. (Original) A mature protein having an antagonistic activity against bone morphogenetic proteins, obtained by replacing at least one amino acid residue of three hydrophobic amino acid residues, among said hydrophobic amino acid residues relating to a receptor binding site in the amino acid sequences of mature human BMP-2 (SEQ ID NO 2), mature human BMP-4 (SEQ ID NO 3), or mature human BMP-7 (SEQ ID NO 4), which are located in positions corresponding to those of methionine residues located in 30^{th}, 71^{st}, and 74^{th} positions of the amino acid sequence of mature human MP52 (SEQ ID NO 1) with a hydrophilic amino acid residue or a polar amino acid residue.

11. (Previously Presented) The mature protein according to claim 9, wherein said mature human BMP-2, mature human BMP-4, or mature human BMP-7 is a dimer protein.

12. (Previously Presented) An agent for therapy and/or prevention of ectopic ossification containing a mature protein according to claim 1 as an effective ingredient showing an antagonistic activity against a bone morphogenetic protein.

13. (Previously Presented) An agent for therapy and/or prevention of metabolic diseases with calcification, containing a mature protein according to claim 1 as an effective ingredient showing an antagonistic activity against a bone morphogenetic protein.

14. (Currently Amended) A method of treating ectopic ossification in warm-blooded animals comprising administering to warm-blooded animals in need thereof an amount of a mature protein according to claim 1 sufficient to treat ectopic ossification.

15. (Previously Presented) A method of treating metabolic diseases with calcification in warm-blooded animals comprising administering to warm-blooded animals in need thereof an amount of a mature protein of claim 1 sufficient to treat said metabolic diseases.